

PENNSYLVANIA SPATIAL DATA ACCESS The Pennsylvania Geospatial Data Clearinghouse

Pennsylvania Data Access PASDA 2018-2019 Annual Report

July 1, 2018-June 30, 2019 Completed by Maurie Caitlin Kelly Penn State Institutes of Energy and the Environment The Pennsylvania State University August 1st, 2019

OVERVIEW

Pennsylvania Spatial Data Access (PASDA—http://www.pasda.psu.edu), the official public geospatial data clearinghouse for the Commonwealth of Pennsylvania marked its 24th year in 2019. PASDA, which has grown from a small website offering 35 data sets in 1995 to the expansive user-centered open data portal that it is today, has become a staple of the GIS community in Pennsylvania.

PASDA is a cooperative project of the Governor's Office of Administration, Office for Information Technology, and Penn State Institutes of Energy and the Environment of the Pennsylvania State University. Funding and support is provided by the Pennsylvania Office for Information Technology. Penn State provides significant contributions to PASDA including system administration support and infrastructure from the Institute for CyberScience and the College of Earth and Mineral Sciences.

PASDA was developed as a service to the citizens of the Commonwealth of Pennsylvania. The purpose of PASDA is to serve as the Commonwealth's comprehensive and coordinated open geospatial data portal that provides free public access to geospatial data and information by, for, and about the Commonwealth of Pennsylvania.

PASDA provides access to credible and authoritative source data. Maintaining PASDA as a coordinated and comprehensive open data portal eliminates the creation of Data Silos that can frustrate and complicate public access to data.

One of the primary purposes of PASDA is to facilitate data sharing in a streamlined environment, making the process fast and easy for data sharing stakeholders. Any state, local, or federal government, non-governmental agency, or academic institution can freely share its geospatial data through PASDA. PASDA serves as Pennsylvania's node on the NSDI and works at the national level to ensure that we meet national and international standards for metadata and data delivery. PASDA provides access to thousands of data files, terabytes of data, and hundreds of Internet Map Services, Google Earth KML files, metadata, mapping applications, and other information like guides and tutorials.

Users come from a broad spectrum of organizations and backgrounds, from teachers and citizens to businesses and government agencies--PASDA provides free access to data, applications, and customization tools to meet the needs of every user.

PASDA saw an increase of use in almost every sector driven in part by factors such as Marcellus Shale exploration, environmental conservation, economic development initiatives, expanded use of geospatial data in universities, non-profits, and the private sector, and the increased interest from average citizens who are able to access geospatial information via PASDA's data previewer and KML files without the need for specialized GIS software. The PASDA staff include:

- Maurie Kelly, Director
- Ryan Baxter, Information Technology Coordinator
- James Spayd, Database Systems and Data Specialist
- Scott Dane, Data Manager

PASDA Services

PASDA provides a number of key services to the Commonwealth. For more detail, please see Appendix A at the end of this report.

PASDA services include:

- Data Storage
- Data Management and Curation
- Metadata Development
- Metadata Training
- Data Search and Retrieval
- Data Download (in multiple formats)
- Map Services/APIs/KMLs
- Data Preservation and Archiving
- Online Mapping Apps
- Data Previewer
- PA Imagery Navigator
- PA Atlas
- PA Mine Map Atlas
- User Support
- Offline Data Access
- Integration with Additional Resources

The Keystones of PASDA

The success of PASDA is based on a long-term vision that incorporates the ideas of free access to data, outreach, and community service. The keystones in the success of the program are:

• **Collaboration**--PASDA understands that collaboration among the geospatial community benefits everyone in the Commonwealth. Collaboration saves money, time, and makes the most of the limited resources of data providers.

- **Cooperation**--PASDA cooperates with all levels of government, non-profits, academia, business, and citizens to support the geospatial data infrastructure and access to data.
- **Innovation**—PASDA continues to be the leader in geospatial data portal operations and services.
- **Continuity**--PASDA works with data providers to ensure continuity of data access and storage.
- Active Engagement--PASDA engages the geospatial community to foster understanding and data sharing.
- **Efficiency**--PASDA's streamlined processes make data sharing fast and easy for our partners.
- **Free Access**--PASDA provides data storage, data access and retrieval, and metadata services free of charge.
- PASDA will continue to provide free storage of geospatial data, as well as build partnerships that enhance ease of access and benefit the data provider, and to develop data access resources and innovative tools to enhance the use and benefits of geospatial data for all citizens of the Commonwealth and geospatial community.
- The data made available through PASDA is provided by our data partners to encourage the widespread sharing of geospatial data, eliminate the creation of redundant data sets, and to further build an inventory (through the development and hosting of metadata) of available data relevant to the Commonwealth.
- PASDA serves as a resource for locating data throughout the Commonwealth through its data storage, interactive mapping applications, and metadata/documentation efforts.

PASDA Stats

In the past year, more than **2.2 million** files were downloaded from the PASDA FTP site; while usage on the entire site topped **177 million** hits from over 3 million visitors. The PASDA Internet Map Services and applications were accessed almost **110 million** times. The Pennsylvania Imagery Navigator, an application used for viewing and downloading aerial photography, topographic data, DEMs, and LIDAR was accessed almost **6.6 million** times in FY 2018/2019. The Pennsylvania Mine Map Atlas service which is an application that provides users with both viewing and downloading capabilities for 80,000 underground mine maps was accessed over **5.7 million** times.

The statistics this year demonstrate more than any other that there is a wide range of data that is of great interest to the user community. Data from our partners at the PA Department of Environmental Protection, PennDOT, PA Department of Conservation and Natural Resources, Allegheny County, the DCNR PAMAP Program, the Delaware Valley Regional Planning Commission, and the received phenomenal use. In addition, PASDA has created highly significant applications and services that dramatically increase the value of the data available. The DEP map service **more than 5.7 million** views, PennDOT mapservice almost 3 **million views**, the PA Game Commission received **9.3 million** hits and the PA Fish and Boat Commission with almost 1 **million views**.

PASDA FY 2018/2019 Activities

PEMA Imagery

The PEMA Statewide Aerial Imagery Program is needed to foster Pennsylvania's Next Generation 9-1-1 (NG911) initiative. The imagery and other remote sensed data collected will be used to support the tools for routing and computer-aided dispatch (CAD) systems located in county based Public Safety Answering Points (PSAPs) and GIS systems across the state to safely and accurately send response crews in the event of an emergency. The specific goals of the aerial imagery program for Pennsylvania call for the collection of the entire Commonwealth in year 2018 (45,540 square miles), and then to initiate a three-year cycle by acquiring approximately a third of the state each in years 2019 to 2021. The central portion of the state would come first in 2019, followed by the east portion in 2020, and the west portion in 2021. The project is being undertaken by Quantum Spatial.

PASDA is working with PEMA and Quantum Spatial to process and provide access to this vital data.

Due to weather issues, the entire state was not able to be flown in 2018 and the first half of 2019. The data now available on PASDA includes Adams, Crawford, Cumberland, Erie, Green, and York counties as well as a cached service of all the data.

PA GeoBoard

PASDA was an active participant in the PA GeoBoard again this year. PASDA supported the development of the Annual Report of the GeoBoard by contributing both content and design support. PASDA staff also served as members of all of the task forces and several of the working groups and subcommittees including: Governance Task Force, Data Task Force, Services Delivery Task Force, Lidar Working Group, Procedures Subcommittee, Strategic Plan Subcommittee.

PASDA staff created a PA Parcel Mapping service, a Data Sharing application, and worked with the Data Task Force and Services Task Force to refine the PA Base Map data layer access pages.

As part of a Services Task Force Initiative, PASDA completed a User Feedback research report and conducted focus group sessions with government, business, academic and NGO participants.

LIDAR Acquisition

PASDA acquired a significant amount of LIDAR data from USGS/NRCS during the spring. All geospatial deliverables were produced with a horizontal datum/projection of NAD83 (2011), UTM Zone 18 North, Meters and a vertical datum/projection of NAVD88, GEOID12B, Meters. All tiled deliverables have a tile size of 1,500 meters x 1,500 meters. Tile names are derived from the US National Grid. There are 7975 total individual tiles covering the following counties: Adams, Columbia, Cumberland, Franklin, Juniata, Lebanon, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder, Union, Berks, Schuylkill, and Sullivan.

The following products are accessible via PASDA.

• Classified LiDAR point cloud data tiles in .LAS 1.4 format

• 1-meter hydro-flattened bare earth digital elevation model (DEM) tiles in ERDAS .IMG format

• Continuous hydro-flattened breaklines in Esri file geodatabase format

• 1-meter hydro-flattened bare earth digital elevation model (DEM) county mosaic in ERDAS .IMG format

- 1-meter digital surface model (DSM) tiles in ERDAS .IMG format
- 1-meter digital surface model (DSM) mosaic in ERDAS .IMG format
- Hillshades by county in ERDAS .IMG format
- 2-foot contour tiles in Esri file geodatabase format by county
- 1-meter intensity imagery tiles in GeoTIFF format
- Project extents geodatabase
- QC ground control points in Esri shapefile format
- Project-, deliverable-, tile-, and county-level metadata in .XML format
- Processing boundary in Esri shapefile format
- Tile index in Esri shapefile format
- Flight logs in .PDF format

Outreach & Meetings

Finally, PASDA has continued to give back to the GIS community. As in past years, PASDA staff have participated in numerous meetings including PA GIS Day planning meetings, the PA GIS conference planning meetings (for both of which PASDA developed sessions, obtained speakers, and also presented), PAView meetings, Northwest PA GIS conference, PA Geoboard Task Force meetings. PASDA has also provided support and guidance for counties and local governments, regional entities, other states and federal agencies in particular supporting the USGS 3D Nation Initiative.

- Weekly Geospatial status meetings
- Weekly PASDA staff meetings
- Monthly meetings with system administration staff including ACI ICS and EMS computing
- Presented at PA NENA Conference
- Member, PA GIS Day Committee, brought in keynote speaker for PA GIS Day
- Exhibited and presented at NW PA GIS Conference
- Exhibited and presented at PA GIS Day
- Exhibited and presented for PASDA and with Services Task Force lead at PA GIS Conference

- Member, Delaware River Watershed Initiative Work Group. Participate in quarterly workgroup meetings.
- Served as State Champion for 3D Nation Survey
- Poster a PSU ICS Day
- Presented and exhibited at PSU Data Day
- Exhibited and presented at PSU GIS Day
- Participated in PA Geospatial Advisory Board meetings (multiple)
- Participated in GeoBoard Governance Task Force (multiple)
- Participated in GeoBoard Services Delivery Task Force (multiple)
- Participated in GeoBoard Data Task Force (multiple)
- Participated in joint task force meetings (multiple)
- Participated in Governance Task Force Procedures subcommittee
- Participated in Governance Task Force Strategic Plan subcommittee
- Helped authors from Carnegie Mellon who are publishing the latest ESRI ArcGIS Probook. They used PASDA as a resource for data and map services for the book.
- Met with PEMA regarding imagery data management and access. Provided PAMAP ancillary data and project process documents to PEMA for use in preparing for their imagery acquisition project.
- Attended APLU Data Summit in DC
- Submitted presentation proposal for esri conference. Proposal was accepted.
- Helped Turnpike Commission with LIDAR data request
- Conference call with Cumberland county about data sharing
- Call with FEMA about flood mapping
- Opioid session meetings
- Hosted PA Basemap Meeting
- Presented at GeoData Summit DC
- Meeting with Turnpike Commission regarding data sharing
- Poster at ICS Day
- Registered exhibit and presentation PA GIS Conference
- Provided PASDA material to the PA APCO meeting presentation
- Attended Substance Abuse Symposium
- Provided statewide 2017 NAIP data to DCNR state parks.
- Meeting with Centre County
- Call with University of Pennsylvania libraries about Civic Data project
- Call with Temple University about archiving data
- Supported city of Philadelphia access to historic Sanborn maps

Data and Partner Highlights

Erie, Dauphin, Mifflin counties are all new partners (though Mifflin shared aerial photos prior to this, they are new parcel partners). The Pennsylvania Land Trust Association is also a new PASDA partner.

PASDA also received data from its long time partners at the University of Vermont Spatial Analysis Lab. This data includes state wide land cover for Pennsylvania.

All Data Acquisitions

<u>July 2018:</u>

• Updated data from DEP. This is an update to an existing data sets: AML points, AML polys, AML sites, Air Emission Plants, Beneficial Land Uses, Captive Hazardous Waste Operations, Coal Mining Operations, Coal Pillar Location Mining, Coal Pillar Location Oil and Gas, Commercial Hazardous Waste Operations, Encroachment Location, Encroachment Locations Oil Gas, Erosion and Sediment Control Facilities, Industrial Mineral Mining Operations, Integrated List Attaining, Mine Drain Treat Land Recycling Project Locations, Municipal Waste Operations, Oil Gas Locations, Oil Gas Water Pollution Control Facilities, Radiation Facilities, Residual Waste Operations, Storage Tank Locations, Total Maximum Daily Load, Total Maximum Daily Load Lakes, Unpaved Roads, Water Pollution Control Facilities, Water Resources, Conservation Wells, Conservation Wells Plugged, Stormwater 167, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Public Water Supplier's (PWS) Service Areas, Water Management Plans (WMP) - Marcellus Shale

• Updated data from Allegheny County: Address points, Building Footprints, Street Centerlines, Parcels

- Updated data from PA Land Trust Association: Conserved lands
- Data from Centre County: Historic aerial photos of county.

August 2018

- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints Street Centerlines, Parcels
- Updated data from PA DEP Mine Maps: DEP_California\Active, DEP_California\Abandoned, DEP_Pottsville, DEP_WilkesBarre DCNR_Middletown, Outside_Collections\Blue_Coal, Outside_Collections\EPCAMR, Outside_Collections\IMAPS, Outside_Collections\K-Sheet, PASDA Index Shapefile to update the Atlas (dated 7/26/2018), Master Index Shapefile for the FTP (dated 7/26/2018).
- Updated data from Centre County: Georeferenced Historic imagery from Centre County: 1938, 1957, 1971
- Updated data from PA Land Trust Association: Conserved lands
- Updated data from Delaware Valley Regional Planning Commission: 2000 DVRPC Imagery
- Updated data from Crawford County: Address Points, Centerline, & Parcels
- Updated data from Fish and Boat Commission: ClassA_Streams Class A Wild Trout Streams. ClassA_Streams_pt - Class A Wild Trout Streams - points. Trout_NaturalReproduction - Stream Sections that Support Wild Trout Production

September 2018

- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints, Street Centerlines, Parcels

October 2018

- Updated data from DEP: AML points, AML polys, AML sites, Air Emission Plants, Beneficial Land Uses, Captive Hazardous Waste Operations, Coal Mining Operations, Coal Pillar Location Mining, Coal Pillar Location Oil and Gas, Commercial Hazardous Waste Operations, Encroachment Location, Encroachment Locations Oil Gas, Erosion and Sediment Control Facilities, Industrial Mineral Mining Operations, Integrated List Attaining, Mine Drain Treat Land Recycling Project Locations, Municipal Waste Operations, Oil Gas Locations, Oil Gas Water Pollution Control Facilities, Radiation Facilities, Residual Waste Operations, Storage Tank Locations, Total Maximum Daily Load, Total Maximum Daily Load Lakes, Unpaved Roads, Water Pollution Control Facilities, Water Resources, Conservation Wells, Conservation Wells Plugged, Stormwater 167, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Public Water Supplier's (PWS) Service Areas, Water Management Plans (WMP) - Marcellus Shale
- Updated data from Allegheny County: Address Points, Centerline, & Parcels
- Data from Susquehanna River Basin Commission: Cumberland and Dauphin County data to our Topographic Wetness Index (TWI), fecal coliform dataset for the Susquehanna River Basin.
- Updated data from Lancaster County: Parcels, urban growth areas
- Updated data from Erie County: Parcels

November 2018

- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints Street Centerlines, Parcels
- Updated data from Erie County: Parcels
- Updated data from PA DEP Mine: DEP_California\Active, DEP_California\Abandoned, DEP_Pottsville, DEP_NewStanton, DEP_WilkesBarre, DCNR_Middletown, DCNR_Penfield, Outside_Collections\CarnegieLibrary

December 2018

- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints Street Centerlines, Parcels
- Updated data from Erie County: Parcels
- Updated data from PA DEP Mine: DEP_California\Active, DEP_California\Abandoned DEP_Pottsville, DEP_NewStanton, DEP_WilkesBarre, DCNR_Penfield, Outside_Collections\Blue_Coal, Outside_Collections\CONSOL_Hardbacks, Outside_Collections\IMAPS, Outside_Collections\EPCAMR
- Updated data from Lancaster County: Lancaster County Municipal Boundaries, Lancaster County RDCLINE, Lancaster County Uga_poly
- Updated data from PA Land Trust Association: Conserved lands public lands
- Updated data from York County: York Address Pts, York Ag Security, York_Bicycle_Corridors, York_Buildings, York_Conservation_Easements, York DES EMS Stations, York DES Fire Stations, York DES Police Stations, York_DIST_County_Boundary, York_DIST_House, York_DIST_Magisterial, York_DIST_Planning_Regions_Appointments, York_DIST_Planning_Regions_Reports, York_DIST_School, York_DIST_Senate, York DIST Voting, York ENVIR Natural Areas Inventory, York Geology, York_Growth_Areas, York_HYDRO_Lakes_Ponds, York_HYDRO_Streams, York_HYDRO_Subwatersheds, York_HYDRO_Watersheds, York HYDRO Wetlands, York LANDUSE Landcover, York_Municipal_Boundary, York_Parcels, York_Parks, York PLANNING Subdivisions, York PUB FACIL College Campuses, York PUB FACIL Govt Offices, York PUB FACIL Libraries, York PUB FACIL Medical, York PUB FACIL Polling Locations, York PUB FACIL Schools, York RECREATION Trails, York Roads, York_Soils, York_Transit_Routes, York_TRANSP_Airports, York_TRANSP_Park_and_Rides, York_TRANSP_Railroads, York TRANSP Transit Stops, York Zipcodes. York Zoning, York_ZONING_Overlays

January 2019

 Updated data from PennDOT: PA_AtGradeIntersections2019_01, PA_DrainPipes2019_01, PA_RailroadCrossing_Points2019_01, PA_RMSBONDS2019_01, PA_RMSPOSTED2019_01, PA_TransportationImprovementProjects_Line2019_01, PA_TransportationImprovementProjects_Point2019_01, PAAdministrativeState_Roads2019_01, PaBridges2019_01, PaCongressional2019_01, PaCounty2019_01, PaEngrDistrict2019_01, PaFacilities2019_01, PaHouse2019_01, PaIntermodal2019_01, PAInterstateHighwayExits2019_01, PaInterstateMileMarkers2019_01, PaLocalRoads2019_01, PaMPORPOPlanning2019_01, PaMunicipalities2019_01, PaSchoolDistricts2019_01, PaSenatorial2019_01, PaState2019_01, PaStateRoads2019_01, PaTraffic2019_01, PaUrbanAreas2019_01

- Updated data from PALTA: NHD Stream Order Pennsylvania
- Updated data from DEP: AML points, AML polys, AML sites, Air Emission Plants, Beneficial Land Uses, Captive Hazardous Waste Operations, Coal Mining Operations, Coal Pillar Location Mining, Coal Pillar Location Oil and Gas, Commercial Hazardous Waste Operations, Encroachment Location, Encroachment Locations Oil Gas, Erosion and Sediment Control Facilities, Industrial Mineral Mining Operations, Integrated List Attaining, Mine Drain Treat Land Recycling Project Locations, Municipal Waste Operations, Oil Gas Locations, Oil Gas Water Pollution Control Facilities, Radiation Facilities, Residual Waste Operations, Storage Tank Locations, Total Maximum Daily Load, Total Maximum Daily Load Lakes, Unpaved Roads, Water Pollution Control Facilities, Water Resources, Conservation Wells, Conservation Wells Plugged, Stormwater 167, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Public Water Supplier's (PWS) Service Areas, Water Management Plans (WMP) - Marcellus Shale
- Updated data from Allegheny County: Address Points, Centerline, & Parcels
- Data from Susquehanna River Basin Commission: Cumberland and Dauphin County data to our Topographic Wetness Index (TWI), fecal coliform dataset for the Susquehanna River Basin.
- Updated data from Lancaster County: Parcels, urban growth areas
- Updated data from Erie County: Parcels

February 2019

- Updated data from the City of Philadelphia: 2018 Imagery and 2018 Lidar
- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints Street Centerlines, Parcels
- Updated data from Erie County: Parcels
- Updated data from Dauphin County: Parcels
- Updated data from DEP California Mine Office: DEP_California\Active, DEP_California\Abandoned, DEP_Pottsville, DEP_New Stanton DCNR_Middletown, Outside_Collections\Penfield, Outside_Collections\Consol Hardbacks
- Updated data from PA Game Commission: cwd_disease_mgmt_area, elk_mgmt_area Elk_mgmt_zones, game_access_points, game_antler_restrictions, game_controlled_goose_areas, game_duck_zones, game_gates, game_goose_zones, game_ofc, game_region, game_special_regulations_areas, game_warden_dist,

game_wild_pheasant_recovery_areas, gameland_roads, gameland_trails, land_mgmt_grp, parking_areas, public_shooting_ranges, state_gameland, wildlife_mgmt_unit

Updated data from PA Fish and Boat Commission: Access - Access Points (Fishing • and Boating), AFM_Areas - Area Fisheries Managers Areas, AFM_Offices - Area Fisheries Managers Offices, Approved_Trout_Waterbodies - Stocked Trout Water Bodies (Polygons), Approved_Trout_Waterbodies_pt - Stocked Trout Water Bodies(Points), Approved_Trout_Waters - Stocked Trout Waters(Flowing Waters), BestFishingWaters_LakesJan2019 - Best Fishing Waters - Lakes, BestFishingWaters_StreamsJan2019 - Best Fishing Waters - Streams, ClassA Streams - Class A Wild Trout Streams, ClassA Streams pt - Class A Wild Trout Streams-points, Commissioner_Districts - PFBC Commissioner Districts, Fishing_SpecReg_Lakes - Fishing Special Regulation Lakes (Polygons), Fishing_SpecReg_Lakes_Point - Fishing Special Regulation Lakes (Points), Fishing SpecReg Streams - Fishing Special Regulation Streams, Trout_NaturalReproduction - Stream Sections that Support Wild Trout Production, Lakes_PFBCDatabase - PFBC Database Lakes (Polygons), Lakes_Point - PFBC Database Lakes (Points)

March 2019

- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints Street Centerlines, Parcels
- Updated data from Erie County: Parcels
- Updated data from Dauphin County: Parcels
- Updated data from DEP California Mine Office: DEP_California\Active DEP_California\Abandoned; DEP_Pottsville; DEP_WilkesBarre; Outside_Collections\OSM Anthracite; PASDA Index Shapefile to update the Atlas (dated 3/8/2019); Master Index Shapefile for the FTP (dated 3/8/2019).
- Updated data from Lancaster County: Lancaster County Municipal Boundaries, Lancaster County RDCLINE, Lancaster County Uga_poly
- Data from PEMA: Imagery for Adams, Crawford, Cumberland, and Erie Counties

<u>April 2019</u>

 Updated data from DEP: AML points, AML polys, AML sites, Air Emission Plants, Beneficial Land Uses, Captive Hazardous Waste Operations, Coal Mining Operations, Coal Pillar Location Mining, Coal Pillar Location Oil and Gas, Commercial Hazardous Waste Operations, Encroachment Location, Encroachment Locations Oil Gas, Erosion and Sediment Control Facilities, Industrial Mineral Mining Operations, Integrated List Attaining, Mine Drain Treat Land Recycling Project Locations, Municipal Waste Operations, Oil Gas Locations, Oil Gas Water Pollution Control Facilities, Radiation Facilities, Residual Waste Operations, Storage Tank Locations, Total Maximum Daily Load, Total Maximum Daily Load Lakes, Unpaved Roads, Water Pollution Control Facilities, Water Resources, Conservation Wells, Conservation Wells Plugged, Stormwater 167, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Public Water Supplier's (PWS) Service Areas, Water Management Plans (WMP) - Marcellus Shale

- Updated data from Allegheny County: Address Points, Centerline, & Parcels
- Updated data from Dauphin County: Parcels
- Updated data from Erie County: Parcels
- Updated data from PA Fish and Boat Commission: ClassA_Streams Class A Wild Trout Streams, ClassA_Streams_pt - Class A Wild Trout Streams-points, TroutStockedSections_2019 - Trout Stocked Streams, Trout_NaturalReproduction -Stream Sections that Support WTProduction
- Data from Mifflin County: Parcels
- Updated data from DEP California Mine Office: DEP_California\Active, DEP_California\Abandoned, DEP_Pottsville DEP_WilkesBarre, Outside_Collections\OSM Anthracite, PASDA Index Shapefile to update the Atlas (dated 3/8/2019), Master Index Shapefile for the FTP (dated 3/8/2019).
- USGS LIDAR for Adams, Columbia, Cumberland, Franklin, Juniata, Lebanon, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder, and Union counties. Includes:
 - o Classified LiDAR point cloud data tiles in .LAS 1.4 format
 - 1-meter hydro-flattened bare earth digital elevation model (DEM) tiles in ERDAS .IMG format
 - Continuous hydro-flattened breaklines in Esri file geodatabase format
 - 1-meter hydro-flattened bare earth digital elevation model (DEM) county mosaic in ERDAS .IMG format
 - o 1-meter digital surface model (DSM) tiles in ERDAS .IMG format
 - o 1-meter digital surface model (DSM) mosaic in ERDAS .IMG format
 - Hillshades by county in ERDAS .IMG format
 - o 2-foot contour tiles in Esri file geodatabase format by county
 - o 1-meter intensity imagery tiles in GeoTIFF format
- Data from PEMA: Imagery for York County

<u>May 2019</u>

- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints Street Centerlines, Parcels
- Updated data from Erie County: Parcels
- Updated data from Dauphin County: Parcels
- Updated data from PALTA: conserved lands

- Updated data from PennDOT: PaUrbanAreas, PaTraffic, PaStateRoads, PaState, PaSenatorial, PaSchoolDistricts, PaMunicipalities, PaMPORPOPlanning, PaLocalRoads, PaInterstateMileMarkers, PAInterstateHighwayExits, PaIntermodal, PaHouse, PaFacilities, PaEngrDistrict, PaCongressional, PaBridges, PaAdministrativeState_Roads, PA_TransportationImprovementProjects_Point, PA_TransportationImprovementProjects_Line, PA_RMSPOSTED, PA_RMSBONDS, PA_RailroadCrossing_Points, PA_DrainPipes, PA_AtGradeIntersections
- Data from University of Vermont Spatial Analysis Lab: PA State Land Cover
- Updated data from PA Dept of Health: Home Health Agencies, Drug and Alcohol Treatment Facility layer
- Updated data from PALTA: Conserved Lands

<u>June 2019</u>

- Updated data from DEP: Oil and Gas Locations, Mined Out Areas, Longwall Mining Panels Underground Mining Permit, Oil and Gas wells conventional/unconventional
- Updated data from Allegheny County: Address points, Building Footprints Street Centerlines, Parcels
- Data from University of Vermont Spatial Analysis Lab: Statewide land cover
- Updated data from Erie County: Parcels
- Updated data from Dauphin County: Parcels
- Updated data from Lycoming County: Parcels
- USGS LIDAR for Berks, Schuylkill, Sullivan counties. Includes:
 - Classified LiDAR point cloud data tiles in .LAS 1.4 format
 - 1-meter hydro-flattened bare earth digital elevation model (DEM) tiles in ERDAS .IMG format
 - $\circ \quad \text{Continuous hydro-flattened breaklines in Esri file geodatabase format}$
 - 1-meter hydro-flattened bare earth digital elevation model (DEM) county mosaic in ERDAS .IMG format
 - o 1-meter digital surface model (DSM) tiles in ERDAS .IMG format
 - o 1-meter digital surface model (DSM) mosaic in ERDAS .IMG format
 - Hillshades by county in ERDAS .IMG format
 - o 2-foot contour tiles in Esri file geodatabase format by county
 - 1-meter intensity imagery tiles in GeoTIFF format
- Updated data from PennDOT: Municipal boundaries
- Updated data from PALTA: Riparian Planting Sites, Trail Group Service Areas and Conserved Lands Update
- Updated data from Lancaster County: Lancaster County Municipal boundaries, Road Centerlines, urban and village growth boundary polygons,

• Updated data from PA Dept of Health: Home Health Agencies, Drug and Alcohol Treatment Facility layer

User Support & Assistance

NOTE: PASDA provides user support via email, phone, and in person. It is often not possible to identify the organization from which assistance is requested (for example, if a user emails us with a @gmail.com account). The following list is examples of those organizations we were able to identify. For most organizations listed, there were multiple contacts throughout the year.

Assistance provided to the Following (some examples): Dawood Engineering, Power Engineers, PA DCNR, Centre County, University of Buffalo, WHM Group, JHA Companies, Curry and Associates, University of Illinois, HBK Engineering, Remington and Vernick Engineers, R&R Engineering, Converse Consultants, ERIS Historical, Evans Mill Environmental, Jacobs Inc, Indiana County, Carnegie Mellon University, Hawbaker Engineering, RK&K, Hanover Land Services, USGS, BL Companies, Awk Consulting Engineers, National Weather Service (Binghamton), AE Com, ERIS Historical, Keddal Aerial, IMC Construction, Cleveland Metro Parks, NRCS/USDA, WRT Design, VanCleef Engineering Associates, Navarro Wright Inc, Hazelton City Authority Water Department, Curry and associates, Christine Davis Associates, EnviroSure Inc, Dewberry, ARM Group, Shippensburg University, Pennoni Associates, PUC, Harshman LLC, Lancaster County, CS Davidson Inc, Erdman Anthony Inc, Bloomsburg University, University of Pennsylvania, Temple University, Normandeau Associates, Gettysburg College, Susquehanna University, JHA Companies, Environment New Jersey, Erie County, Engineering Design Studio LLC, Susquehanna River Basin Commission, Chesapeake Conservancy, DRWI, Hershey Medical Center, Maryland Environmental Service, Geisinger Medical Center, California University of PA, Gardenalia Design, WPSU, DEP Bureau of Mining, Whitman Requardt, and Assoc, Cesium, PEMA, New Pennsylvania Realty Inc, PALTA, Venango County, Evans Mill Environmental, LLC, Office of Legislative Services, PennDOT Engineering District 4, AD Marble Inc, Bloomsburg University, Florida Atlantic University, Department of Environmental Protection | Bureau of Abandoned Mine Reclamation Cambria District Office, Pennsylvania Venture Capital Inc, Eric Waterworks, PennDOT Engineering District 6, Landdmark Forestry LLC, PA Fish and Boat Commission, DCED, Clarion County Office of Emergency Services, NPACC, Lancaster County, Oya Solar, City of Philadelphia, Coronado Global Resources, DigiMap, Worley Parsons Inc, Quantum Spatial, Great Valley Consultants, Cedar Crest College, OA/Conservation and Enviornment Delivery Center, Christiana Health Care System, The DePaul Group, National Energy Technology Lab, PA DEP California Office, Northwest PA Regional Planning Commission, University of Mass Boston, US Geocoder, PA Game Commission, Delaware Valley regional planning Commission, Tioga County, PA Game Commission, PennDOT, ESRI, DEP, PA Dirt and Gravel Roads Program, Gettysburg College, Delaware River Watershed Initiative, East Stroudsburg University, Allegheny County, Chappell Engineering, US Army Corps Huntingdon District, Lancaster County, DVRPC, FEMA Region III, NSGIC, SUNY, Natural Lands Trust, GeoSynTec, Seneca Resources, Southwest PA Commission, Cornerstone Environmental, PA DEP, PennDOT, McMillen Engineering, PennDOT District 4, USGS, Natural

Lands Trust, Allegheny County, PA General Energy, US Army Corps Pittsburgh, AECOM, Juan Francisco Architecture, Carnegie Mellon University, Phila Parks and Rec, PA LDPC, Whitman, Requardt and Assoc, Chesapeake Energy, National Weather Service (State College Office), Ohio State University, SEPTA, Temple University, Moore Design Assoc, Oman Surveying, Redzone Robotics, Pittsburgh Post Gazette, Dawood Engineering, Municipal Authority of Westmoreland County, Keystone Athletic Field Managers Organization, The Pidock Company, Association for Computing Machinery, Maryland Open Data Portal, Trillium CNG, DEP Special Assistant for Science and Technology, Hawbaker Engineering, Regional Planning Commission of Greater Birmingham, PA Historical Society, Villanova University, GeoSearch, SSM Group, US Army Corps Pittsburgh, Civic Mapper, Esseltek Inc, EQT Production, Delaware River Watershed Initiative, Herbstritt Inc, Dauphin, LimnoTech, Stroud Center Water Research, York County, PPL Electric, Niras Informatik, Temple Health System, Transportation Institute, Dawood Engineering, Power Engineers, PA DCNR, Centre County, University of Buffalo, WHM Group, JHA Companies, Curry and Associates, University of Illinois, HBK Engineering, Remington and Vernick Engineers, R&R Engineering, Converse Consultants, ERIS Historical, Evans Mill Environmental, Jacobs Inc, Indiana County, Carnegie Mellon University, Hawbaker Engineering, RK&K, Hanover Land Services, USGS, BL Companies, Awk Consulting Engineers, National Weather Service (Binghamton), AE Com, ERIS Historical, Keddal Aerial, IMC Construction, Cleveland Metro Parks, NRCS/USDA, WRT Design, VanCleef Engineering Associates, Navarro Wright Inc, Hazelton City Authority Water Department, Curry and associates, Christine Davis Associates, EnviroSure Inc, Dewberry, ARM Group, Shippensburg University, Pennoni Associates, PUC, Harshman LLC, Lancaster County, CS Davidson Inc, Erdman Anthony Inc, Bloomsburg University, University of Pennsylvania, Temple University, Normandeau Associates, Adams Electric Cooperative, McTish, Kunkle, and Associates, HNTB, University of Pittsburgh, USDA NRCS, Defense Strategies Institute, James R. Holly & Associates, PA League of Women Voters, PEMA, Duquesne Light, NW PA Planning Commission, PA DEP Mining, esri, Rosebud mining, PA DEP, Juniata Valley Land Surveying, Brekford Traffic Safety, LimnoTech, York County, PA Turnpike Commission, CCAP, University of Chicago, L. Robert Hillman Drafting, York County, GeoDecisions, Pennsylvania American Water, USGS, CCAP, Duquesne Light, Erie County, Dewberry, Baker Surveying, Burns & McDonnell, University of Vermont, Allegheny County, EQT Corporation, FEMA, Baker Surveying, Dauphin County, California University, Rosebud Mining Company, North Central Planning Commission, City of Philadelphia, PA State Police, DMVA, Consol Energy, Cumberland County, PPL Electric, USGS, William Penn Foundation, Kelly Engineers, Deborah Cerbone Associates, Penn Hills Resources, JKLRD, Defense Strategies Institute, Erin Greb Cartography, PA Game Commission, August Baker Surveying, Lancaster County, FEMA, Game Commission, Fish and Boat Commission, DEP, Dauphin County, Erie County, Duquesne University, City of Philadelphia, Tom Tom North America, Lancaster County, USGS, Woodard & Curran, Civic Mapper, Pa Utilities Commission, Quantum, PEMA, Georges Associates, UBS Investment Bank, Tetra Tech, Turnpike commission, Villanova University, DVRPC, SSM Group, D'Annucci Associates, Seneca Resources, Historical Society of Pennsylvania, FEMA Region 3, Kansas State University, Precision Hawk, City of Philadelphia, Allegheny County, Tetra Tech, Hartman and Associates, GeoSearch, DEP Wilkes Barre Office, JHA Companies, CNA, DMVA, North Central PA Regional Planning Commission, Geodecisions, St Vincent College, Center for Rural PA, University of Pittsburgh, ASPRS, PSEA, HACC, Phila Port Authority, US Army Corps Pittsburgh, Michael Baker Inc, Carnegie Mellon University, Lycoming, Shippensburg University, Delaware Valley Regional Planning Commission, Centre County, Philadelphia University, Lockard Surveying, Design Engineering, Rutgers Cooperative Extension, Dauphin County, Riverview Homes, esri Community maps program, PA League of

Women's Voters, Susquehanna county, Lancaster County, Burns & McDonnell, Lycoming County, Venango County, Gramercy Investment, Eris Historical, Analytics Graphics, NRCS, Adams County, Crawford, Cumberland, and Erie Counties, APCO, GeoDecisions, Carnegie Mellon University, Clarion County, PA DEP, KCF Tech, Michael baker, PEMA, Lancaster County, Temple University, California University, USGS, Dewberry, 3D nation program, US Department of Transportation, National Weather Service, PEMA, York County, USGS, Lebanon County, Mifflin County, NRCS, PA Geological Survey, Lancaster County, University of Pittsburgh, Sky Truth, PA Turnpike Commission, PA Agriculture, Teichos Energy, Chester County, GeoDecisions, Franklin County, FEMA, Bohler Engineering, Blasco Memorial Library (erie), Tioga County, Lockard Surveying, Bartle Builders, Cumberland County, Union County, Lancaster County, Equitrans Midstream, Massachusetts institute of technology, Drexel University, US Environmental Protection Agency, Horn Farm Center for Agricultural Education, Civicmapper, Civil & Environmental Consultants, Inc., GPD Group, Carnegie Mellon University, Turnpike Commission, Snyder County, Western PA Conservancy, EQT Production, Eustace Engineers, Olson Craft Associates, Delaware Valley Regional Planning Commission, Sullivan County, DCNR, HBK Engineering, AE7, California University of PA, USGS, HRG, Lycoming County, Michael Baker INT, Carnegie Museum of Natural History, FEMA, Millersville University, Civic Mapper, Gannett Fleming, EADS Group, Lockard Surveying, University of Maryland, America View, Chesapeake Bay Conservancy, DMVA, PAFPM, SW PA Commission, PA DCNR, HBK Engineering, Turnpike Commission.